

What is claimed is:

1. An immunogenic composition, comprising: a first polypeptide coupled to a second polypeptide, wherein the second polypeptide is heterologous to a subject, the composition being capable of eliciting an immune response against an autologous antigen in the subject.
2. An immunogenic composition, comprising: a first polypeptide, wherein the first polypeptide is sufficiently homologous to an autologous polypeptide in a subject, coupled to a second polypeptide, wherein the second polypeptide is heterologous to the subject, the composition being capable of eliciting an immune response against an autologous antigen in the subject.
3. An immunogenic composition, comprising: a first polypeptide, which is autologous to a subject, coupled to a second polypeptide, which is heterologous to the subject, the composition being capable of eliciting an immune response against an autologous antigen in the subject.
4. The composition of claim 3, wherein the subject is a human.
5. The composition of claim 3, wherein the autologous antigen is a cell-associated antigen.
6. The composition of claim 5, wherein the autologous antigen is a cell surface receptor.
7. The composition of claim 3, wherein the autologous antigen is a soluble antigen.
8. The composition of claim 7, wherein the autologous antigen is a cytokine or a hormone.

9. The composition of claim 3, wherein the autologous antigen is selected from the group consisting of: CD64, sL-selectin, elastase, sCD16, CD46, TNF- α , sTNF-R75, sTNF-R55, TGF- β , CD40, CD154, lipoprotein (a), CD56, IL-10, IFN- γ , IL-2, IL-2R, CD45, IL-4, IgE, EGFR, TGF- β , CD54, sCD44 v5, and CD95.
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10. The composition of claim 3, wherein the autologous antigen is a tumor-associated antigen.
11. The composition of claim 3, wherein the autologous antigen is expressed by a B
- 10 cell.
12. The composition of claim 11, wherein the autologous antigen is expressed specifically by B cells.
- 15 13. The composition of claim 11, wherein the autologous antigen is expressed specifically by activated B cells.
14. The composition of claim 3, wherein the first polypeptide and the second polypeptide are expressed as a fusion protein.
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15. The composition of claim 14, wherein the fusion protein is dimeric.
16. The composition of claim 3, wherein the first polypeptide and the second polypeptide are coupled via a chemical linkage.
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17. The composition of claim 3, wherein the first polypeptide comprises at least a portion of a molecule selected from the group consisting of: CD79 α , CD79 β , CD20, and Ig.
- 30 18. The composition of claim 3, wherein the second polypeptide comprises at least one T helper cell epitope.

19. The composition of claim 3, wherein the second polypeptide comprises at least a portion of an Fc region of an immunoglobulin molecule.

20. A composition comprising a first polypeptide which is autologous to a human
5 subject coupled to a second polypeptide which is heterologous to the human subject,
wherein the composition is capable of eliciting an immune response to an autologous
antigen targeted for reduction or elimination.

21. The composition of claim 20, wherein the autologous antigen is a cell-associated
10 antigen.

22. The composition of claim 20, wherein the autologous antigen is a soluble
antigen.

23. The composition of claim 20, wherein the autologous antigen is selected from the
15 group consisting of: CD64, sL-selectin, elastase, sCD16, CD46, TNF- α , sTNF-R75,
sTNF-R55, TGF- β , CD40, CD154, lipoprotein (a), CD56, IL-10, IFN- γ , IL-2, IL-2R,
CD45, IL-4, IgE, EGFR, TGF- β , CD54, sCD44 v5, and CD95.

24. The composition of claim 20, wherein the autologous antigen is a tumor-
20 associated antigen.

25. The composition of claim 20, wherein the autologous antigen is expressed by a B
cell.

26. The composition of claim 20, wherein the first polypeptide and the second
polypeptide are expressed as a fusion protein.

27. The composition of claim 26, wherein the fusion protein is dimeric.

28. The composition of claim 20, wherein the first polypeptide comprises at least a portion of a molecule selected from the group consisting of: CD79 α , CD79 β , CD20, and Ig.
- 5 29. The composition of claim 20, wherein the second polypeptide comprises at least one T helper cell epitope
30. The composition of claim 20, wherein the second polypeptide comprises at least a portion of an Fc region of an immunoglobulin molecule.
- 10 31. A composition for targeting B cells in a subject comprising a first polypeptide, which is autologous to the subject, coupled to a second polypeptide, which is heterologous to the subject, wherein the first polypeptide comprises an immunogenic portion of a polypeptide expressed by a B cell in the subject and wherein the
15 composition is capable of eliciting an immune response to an autologous B cell antigen in the subject.
32. The composition of claim 31, wherein the autologous antigen is a cell-associated antigen.
- 20 33. The composition of claim 31, wherein the autologous antigen is a B cell tumor-associated antigen.
34. The composition of claim 31, wherein the first polypeptide and the second
25 polypeptide are expressed as a fusion protein.
35. The composition of claim 34, wherein the fusion protein is dimeric.
36. The composition of claim 31, wherein the first polypeptide comprises at least a
30 portion of a molecule selected from the group consisting of: CD79 α , CD79 β , CD20, and Ig.

37. The composition of claim 31, wherein the second polypeptide comprises at least one T helper cell epitope

38. The composition of claim 31, wherein the second polypeptide comprises at least
5 a portion of an Fc region of an immunoglobulin molecule.

39. A composition comprising human polypeptide coupled to a polypeptide comprising at least a portion of a non-human immunoglobulin molecule.

10 40. The composition of claim 39, wherein the portion of the non-human immunoglobulin molecule is derived from the Fc portion of the immunoglobulin.

41. A nucleic acid molecule encoding a recombinant construct comprising a human polypeptide coupled to a non-human polypeptide, the construct being capable of
15 eliciting an immune response against the human polypeptide in a human subject.

42. A vector comprising the recombinant construct of claim 41.

43. A host cell comprising the vector of claim 42.

20 44. A method of inducing an immune response against an autologous antigen in a subject, comprising: administering to the subject an immunogenic composition comprising a first, autologous polypeptide coupled to a second, heterologous polypeptide, such that an immune response is induced to an autologous antigen in the
25 subject.

45. A method of inducing an immune response against an autologous antigen associated with a disorder in a human subject, comprising: administering to the subject an immunogenic composition comprising a first, autologous polypeptide coupled to a
30 second, heterologous polypeptide, such that an immune response is induced to an autologous antigen in the subject.

46. The method of claim 45, wherein the composition is administered to the subject more than once.

47. The method of claim 45, wherein the immune response is a T-cell dependent
5 antibody response.

48. The method of claim 45, wherein the antibody response comprises the production of antibodies of the IgG isotype that bind to the autologous antigen.

10 49. The method of claim 45, wherein the autologous antigen is a cell-associated antigen.

50. The method of claim 45, wherein the autologous antigen is a soluble antigen.

15 51. The method of claim 45, wherein the autologous antigen is selected from the group consisting of: CD64, sL-selectin, elastase, sCD16, CD46, TNF- α , sTNF-R75, sTNF-R55, TGF- β , CD40, CD154, lipoprotein (a), CD56, IL-10, IFN- γ , IL-2, IL-2R, CD45, IL-4, IgE, EGFR, TGF- β , CD54, sCD44 v5, and CD95.

20 52. The method of claim 45, wherein the disorder is selected from the group consisting of: cancer, allergy, arthritis, atherosclerosis, graft rejection, and inflammatory disease.

53. The method of claim 46, wherein the autologous antigen is a tumor-associated
25 antigen.

54. The method of claim 46, wherein the autologous antigen is expressed by a B cell.

55. A method of reducing the total amount or concentration of at least one class of antibody in the blood of a human subject comprising: administering to the human subject an immunogenic composition comprising a first, autologous polypeptide coupled to a second, heterologous polypeptide, wherein the first autologous polypeptide
5 comprises at least a portion of a molecule expressed by a B cell of the human subject such that the total amount or concentration of at least one class of antibody in the blood of the human subject is reduced.

56. A method of reducing the number or concentration of cells expressing a cell-associated, autologous antigen in a subject, comprising: administering to the subject an
10 immunogenic composition, comprising a first, autologous polypeptide coupled to a second, heterologous polypeptide, such that the number or concentration of cells expressing the cell-associated, autologous antigen are reduced.

15 57. The method of claim 56, wherein the number or concentration of cells in the subject is reduced by at least about 50% relative to the number or concentration of cells in an untreated subject.

58. The method of claim 57, wherein the cells are B cells.
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59. A method of reducing the amount or concentration of a soluble autologous antigen present in a subject comprising: administering to the subject an immunogenic composition comprising a first, autologous polypeptide coupled to a second, heterologous polypeptide, such that an immune response is induced to a soluble
25 autologous antigen in the subject.